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PARENT'S, TEACHER'S AND STUDENT'S PERCEPTIONS OF CHILDHOOD OBESITY IN THE MIDDLE EAST

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Abstract

The problem of overweight and obese children now constitutes a global epidemic, with high prevalence rates now being reported in many transitional societies. Half of the adults in the United Arab Emirates—one of the wealthiest advanced economies in the world—are overweight or obese and school-age children have experienced a marked increase in BMI. UAE children are 1.8 times more obese than those in the United States and, by age 18, obesity is approximately three times greater among UAE males than those in other countries. This project sought to identify the barriers that prevent UAE children from engaging in physical activity and healthy diets.

We conducted face-to-face interviews with 57 participants living in the greater Ras Al Khaimah area of the UAE, along with observations and field notes, regarding perceptions about childhood overweight and obesity. Interview data were analyzed using qualitative and thematic methods.

Physical inactivity and consumption of fast food and sugared beverages are perceived to contribute to the increase in obesity among UAE children. Social, cultural, and environmental barriers contribute to prevention of childhood obesity in RAK. These include: climate, gender bias, cultural attire, availability and accessibility of resources, technology, and lack of role models. Respondents recognize the problem of childhood obesity in their community and are eager to take part in promoting health awareness and other initiatives that address barriers and have the potential to help school-age children make healthy lifestyle choices.

Teachers, parents, and students in the UAE recognize that being overweight or obese is a serious problem and acknowledge the need for changes in lifestyle in order to prevent the epidemic from continuing to rise. The UAE experience can help us to understand how overweight and obesity influence the health status of children in this and other transitional societies.

Keywords: Childhood, Obesity, Middle East

Introduction:

The prevalence of overweight and obesity is increasing at an alarming rate. "Between 1980 and 2002, obesity doubled in adults' aged 20 years or older and overweight prevalence tripled in children and adolescents between ages 6 and 19 years" (Ogden et al., 2006, p. 1549). The World Health Organization [WHO] (2011) statistics show that as of 2008, 1.5 billion adults, 20 and older, were overweight, and of these 200 million men and almost 300 million women were reported obese. In other words more than one in ten of the worlds' adults were obese. Even the nations' preschoolers are now affected. For instance, in the United States, 1 in 3 children aged 2–19 are overweight, while 1 in 6 are obese (American Heart Association, 2011). According to the Centers for Disease Control [CDC] (2012)

approximately 17% or 12.5 million children between the ages of 2 and 19 years are obese. In 2010 more than 43 million children under the age of 5 were overweight (WHO, 2011). Of these overweight children approximately 35 million live in developing countries while 8 million live in developed countries (WHO, 2011).

Children's diets tend to lack nutritional quality and their levels of physical activity are less than adequate to help maintain healthy bodies (Bellows, Anderson, Gould & Auld, 2008). In many parts of the world children's diets consist of a high level of total fat, saturated fat, sodium, and sugar, while consumption of fruits and vegetables, calcium-rich food and fiber are lacking (Bellows et al., 2008). Along with poor dietary habits, children's physical activity levels are also declining (Bellows et al.). Not only is there a decrease in physical activity or play at schools, but free playtime after school is being consumed by television, internet and video games (Bellows et al.). Contrary to conventional wisdom, the obesity epidemic is not restricted to industrialized societies. In developing countries, an estimated 115 million people suffer from obesity-related problems such as diabetes, strokes, cardiovascular disease and, some types of cancer (WHO, 2009).

Recently, high prevalence rates of childhood overweight have been reported in many transitional societies including many prosperous Arabic countries in the Middle East because of their unique prevailing cultural and social factors. For instance, adult overweight and obesity rates in many countries of the Eastern Mediterranean now exceed 65% (A. Alwan, personal communication, WHO, 2008). "The prevalence of overweight in the UAE is one of the highest in the world: over 30% of all children in the UAE were overweight or obese" (Malik & Bakir, 2007, p. 17) with studies showing a consistent increase in both conditions occurring amongst male and female 2 to 18 year olds (Khader et al., 2009).

Motlagh, O'Donnell, and Yusuf (2009) conducted a systematic review on the prevalence of cardiovascular risk factors in the Middle East. Within the various Middle Eastern countries they found considerable heterogeneity between the studies they reviewed. The analysis showed not only is the overall prevalence of obesity in the Middle East high in many of the regions high-income countries, but it is also considerably higher among women compared with the men (Motlagh et al., 2009). Al-Haddad, Little, and Ghafoor's (2005) study found the prevalence of overweight and obesity in UAE males increased as age increased from 16.4% at 10 years of age to over 29% at year 18 and 6.1% to 18%, respectively. Females in the UAE have shown similar patterns; 22.8% are overweight at age 10 and more than 27% are overweight at age 18. Obesity has also increased from 7.8% at 10 years of age to 9.6% at age 18 among UAE females (Al-Haddad et al., 2005). Al-Haddad et al.'s (2005) investigation documents a higher than international standard rate of obesity and overweight, beginning at age 9 and markedly increasing through puberty and post-pubescent, in UAE youth. Al-Haddad et al. found that by the age of 18 years, obesity was approximately three-fold greater among UAE males than expected. In a study conducted in 2000 Al-Haddad, Al-Nuaimi, Little, and Thabitamerican noted that UAE schoolchildren were 1.8 times more obese than U.S. children.

The rapid rise in overweight and obese children is a crisis that is in great need of preventative measures. Although the development of preventative measures has been well researched and documented in Western societies, little research has been undertaken in Middle Eastern Countries with adults, with even fewer studies investigating obesity in children, especially in the UAE. Although more research has focused on school-aged children, obesity prevention programs dealing with healthy eating and physical activity for young children is still lacking (Bellows et al.).

Developing countries such as the UAE have undergone rapid and massive social and economic changes in which they have adopted unhealthy Westernized eating habits at an unprecedented pace, which has never been seen before in developing countries. This rapid nutritional transition has resulted in an 'obesogenic' society (Yach, Stuckler, & Brownell,

2006).

Prevention and intervention efforts against obesity need to be based on a thorough knowledge of its causes, and public policies along with market-led choices, and need to enable healthy choices that are economical and readily available. Part of the solution could be long-term comprehensive national initiatives that address basic causes of poor nutrition and sedentary lifestyles. Long-term efforts may involve restructuring food production and distribution, investing in social infrastructure to help advance the nations' economic and public health interests and earmarking funds for obesity prevention programs (Yach et al., 2006). Together these efforts could produce potent short-term economic effects, whilst taking action to protect society from this great threat to its long-term well-being.

The present research was an exploratory study that used a qualitative approach to assess the various barriers children in the UAE face with regard to carrying out physical activity and healthy food choices, in order to inform policy. In order to develop appropriate and effective policies for the Ras Al Khaimah, UAE it was deemed critical to get an in-depth understanding of how students, parents, and teachers in schools perceived the issues of causation, prevention and responsibility for childhood obesity.

I.

The present research was an exploratory one that used a qualitative approach to assess the various barriers children in the UAE face with regard to carrying out physical activity and healthy food choices, in order to inform policy. The aim of the study was to collect data from a sample of UAE schools, students, parents, and teachers on their perceptions of childhood obesity. The present study sought to understand key factors that influence the health status of children and adolescents living in Ras Al Khaimah, UAE.

The key aim was to establish if there is sufficient evidence to support the development and implementation of policies that encourage the children of Ras Al Khaimah to practice healthy eating and participate in physical activity. This research was intended to steer the development, implementation, and tracking of a program. To gain insight into students, parents and teachers' perceptions and perspective of childhood obesity in their community, demographic questions, observations, field notes, literature and interviews were conducted with students, parents and teachers. Findings from the collected data and literature were analyzed and submitted to the appropriate agencies in the hopes of developing policies and procedures for protecting the health of the children of Ras Al Khaimah. Some themes correspond with multiple research questions however, they will only be discussed under one question.

Research Question #1

To what extent do school students, parents and teachers perceive childhood obesity as an important issue in Ras Al Khaimah? One of the six major themes to emerge was role models. Role models along with obesity knowledge, another emergent theme produced various sub-themes that addressed the above question.

Role Models

Children need to be exposed to health, active role models if they are to learn to lead healthy active lives. Healthy role models should not only come from parents but also from schools, the community and government agencies. Children are receiving contradictory messages when it comes to following a healthy diet and taking part in exercise, whether it is from poor role models, lack of opportunity, gender bias or lack of awareness. The present research findings highlight children's understandings of some of the causes and consequences of obesity, however, it is equally evident that this information has reached them on a knowledge level, but has not or cannot be fully translated into behavioral changes. It appears

that central to this problem are the multiple discourses that exist around diet and exercise. Lack of governmental campaigns; media; schools lacking healthy food options and physical activity opportunities; and poor role modeling of parents are a few factors contributing to this problem.

Parents have the power to influence their child's decision to ingest unhealthy foods by not allowing them access to fast food and by offering them healthier alternatives. It is up to the parent, and not the child, to decide what foods they are going to spend their money on for their child to consume. Ultimately, individuals have the power and autonomy to make their own choices about diet and exercise. Nevertheless, if they are not provided with opportunities or resources to lead healthy active lifestyles, it can hinder students from making healthy behavioral changes. In order for students to make sound judgments and informed decisions about healthy lifestyles schools, communities, governments, and parents need to ensure students are not presented with conflicting messages. Three strong determinants of health include parents, teachers, and health authorities.

Parents Responsibility

The most common response by students about who was responsible for influencing their health behavior patterns was their parents. All students indicated their parents were positive influencers in their lives because of the encouragement they offered in regards to healthy eating and physical activity. Unfortunately some of the information passed on to their children was misleading and inaccurate.

Contrary to student's sentiments about their parents being good role models and responsible for student's health, teachers believed otherwise. Although teachers did indicate parents definitely had a responsibility for keeping their children healthy they did not act as good role models. According to Lindsay, Sussner, Kim, and Gortmaker (2006) parents are vital to the health of their children. They are the ones who create a home environment that either fosters or hinders healthy lifestyle behaviors. Parents help shape their children dietary habits and physical activity patterns. They have the power to control food selection, meal times, foods eaten in the home and being role models by enjoying healthy eating practices themselves.

Teacher Responsibility

A second theme that emerged from this category was the responsibility and role teacher's play in the prevention of childhood obesity. A number of student respondents credited the responsibility of their health and dealing with childhood obesity to schools and teachers. The majority of parents also felt the task of good modeling fell to teachers and schools. Parents believed that if schools would supply proper food and not allow unhealthy foods into schools then their children would learn healthy habits. There was a fruit initiative implemented in this particular school, however, because some parents did not want the program implemented in the school it was removed. Teachers indicated schools played a role in keeping children healthy they did not believe schools were solely responsible. However, it is difficult for teachers to be responsible for teaching students about healthy foods when parents are causing cessation of programs. Wechsler, McKenna, Lee, and Dietz (2004) believe although schools are unable to solve the childhood obesity epidemic by themselves they play an essential role. This is done by implementing policies and programs that enable students to adopt and sustain healthy eating habits and physical activity behaviors.

Schools in Ras Al Khaimah have not provided mandatory health education or daily PE which are key components to keeping students healthy. Schools need to institute these core courses into the curriculum. Due to this fact parents who have gone through these schools lack the education and knowledge of healthy living and are therefore unable to impart this to their children. If children are to lead physically active lifestyles they need to be placed in

environments that provide continual support and encouragement by their family, school and community. There is also a need to have strong adult role models who exhibit healthy lifestyles and are physically fit.

Health Authorities

Participants also mentioned community health authorities as having a responsibility for dealing with childhood obesity. Workshops, statistics and teaching skills are necessary for students to learn about healthy living. Healthy lifestyles including physical activity and healthy eating are influenced by many sectors including parents, community, health authorities, media, government, and schools. Government agencies also affect the health of children as they are the primary decision makers when it comes to access to healthy foods and opportunities for physical activity.

Responses indicated a global responsibility of childhood obesity involving schools, parents and health authorities is crucial. In order for children to lead healthy active lifestyles a concerted effort on all sectors of society is required "*the government, teachers and parents are responsible for teaching us about health*" YSM2. Although parents indicated schools have a major influence on their children's health there seems to be little schools can do when healthy behaviors are not encouraged or reinforced in the home environment.

The application of knowledge gained through education is often facilitated through good role modeling. In combating childhood obesity, a parent's lifestyle thus has the potential to be the most positive area to influence in terms of health promotion, and disease prevention. The present observations found parents lacked correct information about obesity as was indicated when a few parents stated children would not be tall if they were fat, or they would be unable to drive a vehicle because their stomach would be in the way. What was even more surprising was the MOH advocating healthy eating yet are endorsing unhealthy foods such as cheese, plain and chocolate croissants. Teachers indicated they were not good role models because they were too lazy to exercise was a surprise, especially because these same individuals commented that the Arabic culture was a lazy culture and that students should have healthy active role models. The lack of healthy role models coupled with confusing and conflicting information participants in this study were exposed to, can help explain some of the barriers individuals are facing that prevents them from adopting a healthier lifestyle.

Obesity Knowledge

It is interesting to note that whilst students expressed an understanding that obesity is a problem in their community and school they did not believe obesity was an issue in their family. Parents influence in regards to diet and exercise patterns have enormous impacts on their children. It has been well documented by many researchers Hesketh et al. (2005), and Borra et al. (2003) that children's understanding and attitude about obesity is influenced by their parents' knowledge of the issue. In order for children to become effective thinkers and knowledgeable then need to have the social interaction with people who have acquired great knowledge then themselves. Not only does heritage and culture shape students perceptions and attitudes but learned behavior from watching people in their immediate environment also affects their worldview. Ultimately children need to be independent thinkers that take ownership of their environment but in order to do so they need to have positive influences around them who encourage healthy lifestyles.

Research Question # 2

What are the eating habits, community practices, cultural and physical activity practices in school, home and community environments in Ras Al Khaimah? Three major themes to emerged in regards to the above questions including, cultural traditions, school

curriculum, and obesity knowledge. Cultural traditions produced five sub-themes; parenting style, gender issue, climate hindrances, confining attire and local food patterns. Parenting style and local food patterns, along with the sub-theme food consumption that arose under the theme obesity knowledge will be discussed below.

Parenting Style

Although the majority of students indicated their parents encouraged them to be physically active and eat healthy, some student stated parents lacked awareness and knowledge about their health. A few also mentioned there was lack of encouragement, and supervision on the part of the parents. Time constraints and outside commitments by parents was another factor that hindered students from taking part in the extra-curricular activities. Although most parents mentioned they did encourage their children to be physically active and eat healthy, a few stated some parents lacked concern about the health of their child. Participating teachers cited multiple factors that influenced parenting styles including: lack of knowledge, lack of supervision, misinformed, and disaffectedness. Many teachers indicated parents were not raising their children. Instead of taking on the responsibility themselves parents were leaving the raising of their children up to the maids and nannies. According to the Quran 4:34, men have authority over women and women are to be submissive to men because God made man superior to women, and because men spend their hard earned money to maintain women. An obedient women is considered a good women (Dawood, 1990). Participants in this study indicated that this culture dictates that when fathers are away from home, the eldest male becomes the head of the household. This mean often times the eldest male may only be 11 or 12 years old and he becomes the decision maker in the household, including what foods he will eat for meals. This was not surprising as Arabic cultures although improving still do not view women as equal. Observations revealed that many men had multiple wives and women were to be subservient, following behind her husband and children. It was therefore, not unexpected when many students indicated their parents, mothers in particular lacked the knowledge and supervision capabilities.

Local Food Patterns

Malik and Bakir (2007) found the influx of the Western lifestyle in the Middle East has resulted in changes in both behavioral patterns and food consumption habits. They found that the traditional style of eating and foods such as milk, dates and porridge has gradually been replaced by processed foods such as soda, high sugar, and high fat foods.

Students explained that the local diet contributed to childhood obesity. There were no differences between genders or ages in regards to local food patterns. The high consumption of processed carbohydrates such as: white rice, pastas, and breads; fried foods including falafel, chicken and fish; and hummus drenched in oil were all contributors to childhood obesity. Parents indicated unhealthy food consumption has increased over the years. Although the traditional Arabic diet is healthy, due to the influx of wealth many families were moving away from traditional foods and family style eating to a more Western style of eating including eating in front of the television and not as a family. Teachers described the traditional Arabic diet as healthy but because of lack of portion control and the high consumption of carbohydrates it was not surprising obesity had become a major problem in the Middle East.

Food Consumption

A study conducted by Kerkadi, Abo-Elnaga, and Ibrahim (2005) evaluated the prevalence of overweight and associated risk factors in primary female school children in Al Ain city, UAE. White rice (71.6%) and white bread (58.4%) were the most consumed foods by children of this age group. The student responses in this study support Kekadi et al.'s

findings. Results from this current research found students predominantly consumed large amounts of fried meats and carbohydrates including: white rice, white pasta, white bread, sweet breads, donuts, croissants and sausage rolls. Consumptions of whole grains was only mentioned by two respondents. A study conducted by Ma et al. (2003) study found "skipping breakfast was associated with increased prevalence of obesity, as was greater frequency of eating breakfast or dinner away from home" (p. 85). Similar findings were found in this study as the majority of secondary students indicated they skipped breakfast and would either purchase snack foods (cheese sandwiches, chocolate, crisps, donuts or juice) from school or not eat until after 2 pm.

Eating fast food, junk food and soda was also a frequent occurrence by most participating students. In Kerkadi, Abo-Elnaga, and Ibrahim's (2005) study they found more than 60% of children consumed chips daily while over 25% of children reported drinking soda and 75% of them ate fast food at least once a week. They also found that more than 27% of children brought money to school to buy chips, candies and sandwiches from the school canteen. Trends of this type were also noted in this study. The majority of students indicated they consumed chips, chocolate or sweets at 2 to 3 times a week, while a few students consumed two or more chocolate bars a day in addition to eating other sweets and chips. Most students in this study ate fast food at least once a week and a number of respondents ate it more than twice. While walking around the various schools observations were noted in which most children were consuming soda, chips, chocolates and other sweets while few were eating fruit and vegetables. These observations are in accord with interviews and review of literature.

Bowman et al. (2004) conducted a study in which they found a greater amount of adolescents consuming most of their meals from fast foods restaurants rather than eating at home. Part of the reason for more take-out meals rather than home-cooked meals had to do with convenience, busy schedules, and affordable prices. The patterns in this study were consistent with those of Bowman et al.'s. Students in the current study indicated the reason they consumed fast food was because of its convenience, accessibility and quickness. Prevalence of fast food intake, soda and junk food consumption is no different for children living in RAK than it is from students living in North America. Students understand that unhealthy eating and drinking soda negatively affect health and contributes to obesity. That being said the majority of students were unconcerned about these negative effects believing they would not be harmed by them.

Health Education

All but one student stated there was a need to implement a health education class into their school curriculum. Teachers indicated there was a need for health education that addressed healthy eating, types of healthy foods, effects of obesity and consequences of obesity. There was also the mention of implementing health and nutrition committees. Currently only a few schools that I studied have a nutritional program committee, and even fewer have nutritional policies.

Physical Education

The current number of PE classes for schools in the current study, in Ras Al Khaimah ranged from 1 to 2 per each being 45 minutes in length, with some schools offering no PE to secondary students. According to the Department of Health and Human Services (2011) the likelihood of high school students being enrolled in physical education decreases each every year with few secondary students being enrolled. Participation of physical education class decreases significantly from 9^{th} grade 80% boys and girls to 45% and 39% of 12^{th} grade boys and girls, respectively. As schools in Ras Al Khaimah only offer 1 to 2 PE classes a week each lasting 45 minute, clearly the daily activity requirements of students are not being met.

Though most students participated in PE classes at some point in their school experience, none were offered daily PE. While attending a few different schools I did notice there was one game of soccer happening for the PE class but only non-Arabic boys were playing while the Arabic children stood on the sidelines in their dishdash (traditional Arabic garb).

Many health advocates support the notion that family traditions, faith and community culture play a key role in the health of individuals. Results from this study are in agreement with findings from Barakat-Haddad (2011), Malik and Bakir (2007), Henry et al. (2004), Al-Hourani et al. (2003), and Al Haddad et al. (2000), which considered culture, adoption of Western lifestyles, social changes in the community, gender, and weather as having a negative impact on children's health and contributing to childhood obesity in the UAE.

Research Question # 3

Do students, parents and teachers perceive any challenges or barriers in their schools or communities that prevent children from engaging in physical activity? While addressing this research question the following themes arose; community infrastructure, and the other three sub-themes from cultural traditions (gender issues, climate hindrances, and confining attire).

Availability of Resources

It is not uncommon for individuals to want to highlight the wonders of their community and therefore not surprising that students and parents stated their community encouraged them to lead healthy lifestyles, then again, in order to get a more accurate picture of the community the researcher needed to probe deeper to uncover what participants really thought about the opportunities available to them. To gather this information researcher asked what barriers they faced in regards to doing activity in their community. The above question elicited similar responses from most students. The community lacked facilities.

According to students the need to increase the number of gyms, fields, and playgrounds was paramount. Although most students did indicate a need for increase in availability of resources females regardless of age all mentioned this was necessary. Even though many male students mentioned there was a need for more facilities they also indicated they did have access to soccer and basketball facilities which females did not. Similar trends were found among parents. They too indicated there was a need for the community to offer more fitness facilities. In particular there was a need to increase gyms, and programs for women and children. Not one responding teacher indicated the family, faith or community culture encouraged healthy lifestyles. They stated rather than encourage healthy active lifestyles these factors hindered students.

Accessibility of Resources

Respondents mentioned improving accessibility of resources within the community was essential, whether it be by increasing the number of facilities in general or increasing the number of fitness center accessible to women. Although many parents indicated there were no obstacles to leading healthy active lifestyles those that did express their concerns mentioned similar responses to those of students. Some teachers mentioned gender mixing (that is boys and girls playing in the same fitness facility) was a concern and may hinder students from being able to lead healthy active healthy lifestyles.

Vehicle Concerns

The third sub-theme was safety concerns. Major resources missing from the Ras Al Khaimahs' infrastructure include sidewalks, bike paths and walking baths. Other than the Corniche, an unfinished 5 km walking path, there are few places for individuals to walk or bike. According to Rahman, Cushing, and Jackson (2011)

Communities that have low-density development patterns, poor street connectivity, and a lack of destinations within safe walking distance adversely impact health behaviors, which in turn contributes to obesity.

They mentioned that homes that were a fair distance from physical activity amenities and situated in areas with busy roads that prevented children from walking or biking often resulted in children spending more time doing indoor activities such are television watch and other sedentary type activities. In this study participants mentioned safety concerns including being hit by a speeding car and playing discouraged them from playing outdoors. Having walked the streets of the community and witnessing the lack of sidewalks, rapidly moving vehicles and missing bike lanes it is no surprise respondents indicated safety concerns prevented them from engaging in outdoor activities.

Although the community is working on improving access, availability and safety for students to be physical active (the Corniche) it is evident from this studies observations coupled with interviews that Ras Al Khaimah is in need of a major infrastructural overhaul in order to make the possibility of healthy active lifestyle commonplace. Results from this study are in accordance with other research in the UAE. Musaiger, Lloyd, Al-Neyadi, and Bener (2003) found that environmental factors such as the design of the community and infrastructure were not conducive to walking which has resulted in Emiratis relying heavily on the use of vehicles. Based on Ng et al's (2011) findings it would seem cities are more prone to obesity as females who relocated to urban areas in the past 5 years had higher a prevalence rate for overweight and obesity and were less active. Their study also indicated the hot arid climate and dusty conditions of the urban communities discouraged regular exercise and outdoor activities.

Gender Issues, Climate Hindrances, and Confining Attire

Kerkadi (2003) found UAE females were often excluded from engaging in physical activity because of social and religious norms. In this study gender issues, along with climate and confining attire were cited by the majority of respondents as barriers to physical activity. Several students indicated challenges that impeded their physical activity opportunities included lack of facilities, and gym availability to females. Although a few students mentioned their community enabled them to engage in physical activity the majority of these comments came from male students. Parents also indicated gender was an issue when it came to physical activity. Many stated there were amply opportunities for males to partake in sports, exercise and physical activity, in spite of this there lacked equality when it came to the availability of resources for girls. Teachers mentioned weather, attire and gender were challenges children faced in regards to physical activity. As reported by Malik and Bakir (2007) more females in the UAE spend large amounts of time in the home because of social and cultural factors. Malik and Bakir (2007) mentioned females have little to no access to sports or leisure activities. The current study observed similar gender biases, it was also noted that the consistent hot, dry year round weather, coupled with inappropriate workout attire, and lack of indoor facilities prevents children from engaging in appropriate amounts of daily physical activity.

Research Question # 4

Do students, parents and teachers perceive any challenges or barriers in their schools or communities that prevent children from engaging lifelong healthy eating habits? The final research question

School canteens

Although several student respondents indicated their school canteen served healthy foods the majority felt the canteen food was unhealthy. Comments of why canteen food was

unhealthy included the displaying of food such as did the lasagna have a layer of oil on top, the quality of food and the types of food offered. Having observed various canteens throughout the school visit, along with the school menus, and MOH healthy foods campaigns it is apparent foods being served such as donut for break, and fried meats are not healthy options. What was surprising is that students and teachers who stated the canteen was healthy or at least for this part of the world indicated that fresh fruit and vegetables were healthy foods yet few of these school offered these options.

Restaurants and Supermarkets

Rahman, Cushing, and Jackson's (2011) study found people's health was affected by factors in the surrounding community including the "availability, accessibility and cultural acceptability of food" (p. 55). They concluded that those individuals who had greater access to healthier supermarkets rather than convenience stores were more likely to exhibit healthier diets and tended to be less obese. Trends from this present study were similar to those of Rahman et al. Most respondents discussed how local restaurants and supermarkets did not provide healthy food options. A few participants mentioned a need to implement a system to monitor allowable foods sold at both supermarkets and restaurants. Students in particular wanted to see food labels and content lists posted in restaurants. Several students indicated supermarkets needed to stop supplying junk food along with increasing the number of supermarkets and restaurants offering healthy food options. Parents indicated there should be more policing of foods sold in restaurants and supermarkets as well as increasing the availability of healthy foods. Increasing the number of healthy foods restaurants was also commonly mentioned. The majority of teachers indicated both restaurants and supermarkets in the community lacked variety and healthy choice options. These sentiments were in accordance with the researchers observations. Observations revealed no healthy.

Respondents identified several common areas of challenge. These challenges were related to quality, availability, types, and presentation of foods. Although not all participants indicated schools, restaurants, and supermarkets offered unhealthy foods, the majority did mention there was a need to increase healthy foods options. Along with restricted school budgets, some private schools, such as the English Speaking School, outsource their food service department, which leaves the control of student food intakes to independent companies. Although the MOH has tried to implement a healthy eating canteen list, the school systems continue to allow junk foods to be sold in their schools. In order to bring out changes in foods available in canteens, supermarkets and restaurants stricter policies and regulations need to be implemented and enforced in schools and in the community.

Screen Usage

On average, children ages 2 to 18 spend a minimum of four hours a day being sedentary because of screen time use (Villaire, 2000). The current study found similar results with children averaging 5.5 hours of screen time daily. Not only does television, computer, video games and other forms of sedentary activity interfere with physical activity it also affects children's food consumption patterns. Villaire (2000) noted that children who saw television advertisements for foods tended to purchase more of those foods. Most children's shows are inundated with commercials advocating fast food, sweets, soda, high fat snacks and sugared breakfast cereals (Villaire, 2000). Similar trends were found in this study.

Students mentioned while watching television they would see commercials for fast foods, and sweets and because of this advertisements they would go out and purchase those products. Television and mass media wield a huge influence over our behavior and entice us to choose unhealthy foods.

There are several implications for the field of health education and obesity prevention in the UAE as a result of this study. Although teachers, parents, health officials, and

government agencies play crucial roles in facilitating healthy lifestyles for children living in the Middle East, studies compiled from the review of literature clearly show these are the missing links within the community organization in regards to prevention of childhood obesity.

Based on the students, parents and teachers perceptions in this study, it becomes apparent that environmental, social and cultural factors are important areas that need to be addressed in order to reduce childhood obesity. It is imperative that the local government, Ministry of Health and Ministry of Education pursue further development of this topic in order to explore possible culturally appropriate solutions to reverse the obesity epidemic. The World Health Organization defines health promotion as "the process of enabling people to increase control over, and to improve, their health" (WHO, 1986). This section endeavors to suggest a health promotion approach for the community of Ras Al Khaimah. Suggestions have been provided based on the findings of this research to help improve the health and well-being of students living in Ras Al Khaimah in regards to obesity risk factors.

Based on the literature review; consultation with the Emirati and Middle Eastern cultural advisors, students, parents and teachers living in the Middle East, in particular the UAE and specifically the Emirate of Ras Al Khaimah; and findings from this research, obesity is a serious problem in this community. There is a need for changes in lifestyles in order to prevent this obesity epidemic from continuing to rise. Green's PRECEDE-PROCEED Model seems to be the most appropriate planning model to guide the development of strategies for students living in Ras Al Khaimah to lead healthier lives. The educational and organizational assessment in this study involved identification and categorization of a multitude of influence that potentially effected student behavior in regards to physical activity and healthy eating in Ras Al Khaimah. This included assessing predisposing factors such as: age, gender, and status in society; enabling factors including: parents, teachers, and healthy policy; and reinforcing factors for instance: confining attire, climate hindrances, vehicle concerns, PE classes, school canteen, supermarkets, restaurants, availability of resources, accessibility of resources, and health education.

The social constructivist theory was the desirable theoretical framework because it enabled the researcher narrow down what should be gathered as far as information, perceptions, and knowledge individuals had based on their background, culture and worldviews. This theory helped explain how the Emirate culture where gender bias still exists, lack of healthy active role models and the lack of parental knowledge about leading healthy lifestyles has affected the students in this study's knowledge, perceptions and behaviors about obesity, healthy eating and physical activity. Teachers, parents and other more knowledgeable people such as the Ministry of Health in this study did not contribute to students skill set, knowledge or world view about obesity and healthy lifestyles. This was seen through the lack of health education offered in schools, lack of physical education, community and cultural practices not enabling students to participate in physical activity (attire, gender bias, availability and accessibility of resources, safety concerns) and healthy eating (unhealthy foods at school, children determining own meals, unhealthy restaurants, lack of availability of resources). If society, culture, community and older more knowledgeable individuals are not providing an environment for students to learn healthy behavior their "understanding of society" will be one which could lead to unhealthy habits.

This section attempts to suggest a health promotion approach for the community of Ras Al Khaimah based on previous literature of childhood obesity in the Middle East and the findings of this research to help improve the health and well-being of students living in Ras Al Khaimah in regards to obesity risk factors. Given the challenges of reversing the existing obesity epidemic in the pediatric population, preventive tactics are likely to be the key to success (Council on Sport Medicine and Fitness and Council of School Health, 2006). The findings show participants recognize that childhood obesity is perceived as a serious problem

in their community and school and are eager to take part in promoting health awareness initiatives that lead to healthy lifestyle choices.

Findings from interviews, observations, field notes and review of literature clearly indicate a combination of initiatives to make healthy diet choices and physical activity more accessible is necessary. Specifically any initiative created in Ras Al Khaimah needs to include a more positive built environment one that provides resources and social support to help improve lifestyle choices made by individuals. Health officials and government agencies need to work with community planners to ensure the city has access to exercise facilities and designing the community in a manner that promotes active transportation (such as bike lanes and walking paths), safety for exercise (playgrounds away from the highway), and also cater to females within their cultural context (female only fitness centers, proper workout attire). Gaining access to a larger variety of health food options both in the local restaurants and supermarkets as well as school canteens and limiting access to less healthy options may prove to help improve overall diets of those living in this community. Implementing a health education class into school curriculums which talk about the consequences and effects of obesity, how to eat healthy and benefits of physical active could potentially be useful in educating students about healthy lifestyles. Increasing the number of physical education classes for all age groups including adding in physical education class for secondary students. Making these environmental changes in the schools (such as limiting the amount of high calorie, high fat foods such as croissants, donuts and strawberry milk) along with a targeted health education class and promoting of physical activity at an early age and specifically for females could prove effective. As television viewing has increased over the years and participants in this study indicated they spent hours watching television and on the internet where they see advertisements for unhealthy foods. Studies (Heim, Brandtzaeg, Kaare, Endestad, and Torgesen, 2007) show children spend more time watching television than they do in school or any other activity except for sleep. Introducing media literacy courses or workshops into the school would enable students to learn how to ask questions about what they are seeing, hearing or reading. It will provide them with tools necessary to critically analyze and evaluate the messages they are bombarded with on a daily basis with the hopes that they will be able to make informed decisions about whether “Life Begins Here” when you drink a can of coke.

This research suggests in order to promote healthier lifestyles and address childhood obesity there needs to involve a community, school and family approach

• Families, schools, community, and government agencies need to recognize a childhood obesity problem exists, identify risk factors, plan, implement, evaluate and maintain health promotion policies and programs

• Ways to approach the community and increase awareness include health fairs, announcements made in the Mosques, through students getting involved in wellness campaigns, television, advertisements and the malls

• The first step would be to set up a community meeting to address the objectives, values, needs and desires of the community in regards to promoting healthier schools and city

• Next identify qualified professionals from the Ministry of Health, Ministry of Education, medical personnel, health education teachers and members of the ruling family who are well respected in the community and train them to facility culturally sensitive health promoting sessions

• Then get interested individuals in the community, and schools to set goals (such as increasing the number of sport facilities in the community for males and females, health fair to increase awareness, or providing healthy menus in the school canteens, increasing the number of sidewalks or bike paths), brainstorm about the infrastructure, resources, plans and materials needed to bring about these types of change (such community center, fitness

equipment, certified personal trainers, nutritionist, or menus with calorie, fat and sodium content)

• The plan would then need to be implemented and evaluated by locally trained professionals to determine its effectiveness. This would include providing culturally appropriate material for all ethnic groups, gender specific programs (such as walking clubs for girls as females in this study indicated walking was their main sources of physical activity, more sports clubs for boys as male participants mentioned soccer was something they enjoyed playing), and age specific programs (separate physical activity classes for various age groups not having 6 year olds in the same taekwondo class as 15 year olds).

The aim is to increase awareness and to cultivate an environment that can bring about change in lifestyles and behaviors of students and their families. It is not designed to limit what people can and cannot eat or can and cannot do but to increase their opportunities to engage in interesting, enjoyable, fun programs that will motivate them to lead healthy lives. By incorporating the family, schools and community it will allow students to be involved in the process, to be role models and to do this with their friends and family. In order to maintain and sustain programs, regular evaluations by a team of trained local experts is required. It requires the support from governing bodies such as the school boards, Ministry of Healthy, Ministry of Education, the Sheikh and the ruling family. Although these programs include all ages the main focus needs to be on the youth as childhood obesity is the greatest concern

Conclusion:

In summary, this research met its original aim. Firstly, to determine the extent teachers, parents and students perceived childhood obesity as an important issue in Ras Al Khaimah. This was shown through the analysis of interview responses collected from students, parents and teachers in regards to whether they believed obesity was an issue in their schools, community and families. Perceptions from teachers and parents were that obesity was a serious issue in the schools, families and communities, however, students believed childhood obesity was a problem in their schools and communities, but less of a problem in their families.

The second objective was to determine the eating habits, community practices, cultural and physical activity practices in school, home and community environments in Ras Al Khaimah. Results showed that although students view their community and families as encouragers of healthy eating and physical activity the lack of healthy foods served at restaurants, home, and schools, as well as the lack of physical activity facilities within the community and absence of daily physical activity offered at school contradicts these responses. Students lack of knowledge of correct portion sizes, high intake of fast foods, soda and junk food are also influences that have negatively impacted their health and has contributed to the childhood obesity epidemic.

The third and fourth objective was to determine students, parents and teachers perceptions on challenges or barriers in their schools or communities that prevent children from engaging in physical activity and eating healthy. Challenges and barriers mentioned by teachers and parents included television and other technology, as well as the propensity of students to eat fast food. Teachers mentioned the culture had a negative impact on students due to lack of parenting and parental knowledge about healthy eating and physical activity, lack of awareness, attire, and weather were all barriers children in this community face. Limited numbers of physical education classes, lack of bike lanes and limited walking paths, safety concerns, limited access to physical activity facilities in the community, especially for females, the inability to access healthy foods both in the schools and in the community, and a lack of a variety of foods available in the canteen were seen as barriers to both eating healthy and engaging in physical activity.

As was indicated at the beginning of this research few studies have been conducted assessing the serious issue of childhood obesity in the UAE, and virtually nothing has been done in the Emirate of Ras Al Khaimah. With the growth in the population of youth the UAE is experiencing, this study is timely in its investigation in regards to childhood obesity prevention. The literature review supports the need for this research and corroborates the findings of this study. Obesity has become a grave concern for health professionals around the globe, but even more so for those living in the Middle East because of the rapid rise in urbanization and adoption of Western lifestyles in such a short time frame.

In summary, from the observations, interviews, field notes, demographic information and literature review there is a clear consensus that environmental changes are key to obesity prevention, however, there needs to be individual behavioral changes which involves the adoption of healthier lifestyles including increase in physical activity and healthy eating. Obesity prevention in Ras Al Khaimah will require a corporate effort including schools, families, community, and government agencies. All need to play a role and take initiative to help deal with the issue if change is to come about.

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